CLAIMS

What is claimed is:

- 1. A wireless communication method for assigning multi-paths to Rake receiver fingers, the method comprising:
 - (a) establishing a Rake finger assignment database;
- (b) categorizing a plurality of multi-path signals in the database into a verified group and an unverified group, wherein the verified group includes multi-path signals that were detected more than once and the unverified group includes multi-path signals that are not detected more than once; and
- (c) categorizing the multi-path signals in the verified group into an assigned subgroup and an unassigned subgroup, wherein each of the multi-path signals in the assigned subgroup is assigned to a Rake receiver finger and each of the multi-path signals in the unassigned subgroup is not assigned to a Rake receiver finger.
 - 2. The method of claim 1 further comprising:
- (d) comparing the signal strength of each multi-path signal to a predetermined noise floor threshold; and
- (e) if the signal strength of the multi-path signal is less than the noise floor threshold, removing the multi-path signal from the database.
- 3. The method of claim 2 wherein if the removed multi-path signal is categorized in the assigned group, the Rake receiver finger is no longer assigned to the removed multi-path signal.
 - 4. The method of claim 1 further comprising:

- (d) during a measurement interval, receiving a plurality of newly measured multi-path signals;
- (e) comparing each newly measured multi-path signal to the multi-path signals in the database; and
- (f) if a newly measured multi-path signal is not found in the database, adding the newly measured multi-path signal to the database.
- 5. The method of claim 1 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a verification flag data field, wherein step (f) further comprises setting the verification flag data field such that it indicates that the multi-path signal is not verified.
- 6. The method of claim 1 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a verification flag data field, the method further comprising:
- (d) during a measurement interval, receiving a plurality of newly measured multi-path signals;
- (e) comparing each newly measured multi-path signal to the multi-path signals in the database; and
- (f) if a multi-path signal in the database, that belongs to the unassigned subgroup, matches a newly measured multi-path signal, setting the verification flag data field such that it indicates that the multi-path signal is verified.
- 7. The method of claim 1 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a data field indicating the pilot phase of the multi-path signal.

- 8. The method of claim 1 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a data field indicating the averaged signal strength of the multi-path signal.
- 9. The method of claim 1 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a data field identifying an assigned Rake receiver finger.
- 10. A wireless communication system for assigning multi-paths to Rake receiver fingers, the system comprising:
 - (a) a Rake finger assignment database;
- (b) means for categorizing a plurality of multi-path signals in the database into a verified group and an unverified group, wherein the verified group includes multi-path signals that were detected more than once and the unverified group includes multi-path signals that are not detected more than once; and
- (c) means for categorizing the multi-path signals in the verified group into an assigned subgroup and an unassigned subgroup, wherein each of the multi-path signals in the assigned subgroup is assigned to a Rake receiver finger and each of the multi-path signals in the unassigned subgroup is not assigned to a Rake receiver finger.
 - 11. The system of claim 10 further comprising:
- (d) means for comparing the signal strength of each multi-path signal to a predetermined noise floor threshold; and
- (e) means for removing the multi-path signal from the database if the signal strength of the multi-path signal is less than the noise floor threshold.

- 12. The system of claim 11 wherein if the removed multi-path signal is categorized in the assigned group, the Rake receiver finger is no longer assigned to the removed multi-path signal.
- 13. The system of claim 10 wherein, during a measurement interval, a plurality of newly measured multi-path signals are received, the system further comprising:
- (d) means for comparing each newly measured multi-path signal to the multi-path signals in the database; and
- (e) means for adding the newly measured multi-path signal to the database, if a newly measured multi-path signal is not found in the database.
- 14. The system of claim 10 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a verification flag data field, wherein the verification flag data field is set such that it indicates that the multi-path signal is not verified.
- 15. The system of claim 10 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a verification flag data field, and during a measurement interval, a plurality of newly measured multi-path signals are received, the method further comprising:
- (d) means for comparing each newly measured multi-path signal to the multi-path signals in the database; and
- (e) means for setting the verification flag data field such that it indicates that the multi-path signal is verified, if a multi-path signal in the database, that belongs to the unassigned subgroup, matches a newly measured multi-path signal.

- 16. The system of claim 10 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a data field indicating the pilot phase of the multi-path signal.
- 17. The system of claim 10 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a data field indicating the averaged signal strength of the multi-path signal.
- 18. The system of claim 10 wherein each multi-path signal is assigned a respective bin in the database, said bin including a data structure including a data field identifying an assigned Rake receiver finger.
- 19. The system of claim 11 wherein the system is a timeslot-based system and the measurement interval occurs on a frame-by-frame basis.
- 20. A wireless communication system for assigning multi-paths to Rake receiver fingers, the system comprising:
 - (a) a path scheduler (PS) for maintaining a list of pilot multi-paths;
 - (b) a processor in communication with the PS; and
- (c) a memory device in communication with the processor and the PS, wherein the memory device has a first portion for storing the results of a pilot path search process running on the processor and a second portion for storing the results of a pilot signal measurement (PSM) process running on the processor.